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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Malcolm G. Thomson

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EXAMINER

JEANGLAUDE, JEAN BRUNER

ART UNIT

PAPER NUMBER

2819

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/753,708

Applicant(s)

THOMSON, MALCOLM G.

Examiner

Jean B. Jeanglaude

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment filed on 11-07-05.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2, 19 -40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2 and 38 is/are allowed.
- 6) ☒ Claim(s) 19-21,23,26-35,37,39 and 40 is/are rejected.
- 7) ☒ Claim(s) 22,24,25 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The finality of the office action mailed on July 26, 2005 is withdrawn and the prosecution of this case is reopened.

The allowability of claims 26 – 40 is withdrawn based on a newly found reference.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 26, 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lo et al. (US Patent Number 5,876,350) in view of Xue et al. (US Patent Number 6,108,622).

3. Regarding claims 26, 37, Lo et al. discloses a filtering method (fig. 4) that comprising the steps of receiving a digital signal (at block 90 the digital signal is received), the digital signal having an initial sampling rate the digital signal further having line noise (col. 6, lines 43 – 50); filtering the line noise at 50 Hz (col.7, lines 33 – 39); filtering the line noise at 60 Hz (col. 6, lines 51 – 61). Lo et al. does not specifically disclose a filtering method that reduces the initial sampling rate of the digital signal to a reduced sampling rate (claim 26) and generating a digital signal having a sampling rate of 1200Hz (claim 37). However, Xue et al., in a related field, discloses a method (figs. 1-5) that reduces the initial sampling rate of the digital signal to a reduced sampling rate (col. 14, lines 22 – 26) [the sample rate would be a variable value that is determined in

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function of the frequency. Since Xue et al. determines the sampling rate in their system; one ordinary skill in the art would use Xue et al.'s system to achieve the same end result as the claimed invention. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lo et al.'s system with that of Xue et al. in order to control linear PCM scaling and decimation in an audio decoder.

4. Claims 28 – 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lo et al. (US Patent Number 5,876,350) in view of Xue et al. (US Patent Number 6,108,622) as applied to claim 26 above, and further in view of Del Signore et al. (US Patent Number 5,157,395).

5. Regarding claims 28 – 35, Lo et al. in combination with Xue et al. do not specifically disclose a filtering method wherein the step of filtering the line noise at 50 Hz comprises the step of cascading the digital signal through multiple filters (claim 28); filtering method wherein the step of filtering the line noise at 60 Hz comprises the step of cascading the digital signal through multiple filters (claim 29); the method wherein the step of reducing the initial sampling rate comprises the step of cascading the digital signal through multiple filters (claim 30); the method that comprises a step of cascading the digital signal through multiple filters (claim 31); a method wherein the step of cascading the digital signal through multiple filters comprises the step of directing the digital signal through a filter having a decimation ratio of 16 (claim 32); a method of wherein the step of cascading the digital signal through multiple filters comprises the step of directing the digital signal through a filter having a decimation ratio of 2 (claim

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33) ; a method wherein the step of cascading the digital signal through multiple filters comprises the step of directing the digital signal through a filter having a decimation ratio of 10 (claim 34); a method wherein the step of cascading the digital signal through multiple filters comprises the step of directing the digital signal through a filter having a decimation ratio of 6 (claim 35). However, it is noted in Del Signore et al. (Figs. 2, 3) that there are a plurality of filters that receive a decimation signal (digital signal) which includes noise and as noted in figs. 2 and 3 signal at blocks 12, 16 denote the decimation ratio that depends on the value of a FIR1 (LPF) fixed decimation value. One ordinary in the art would recognize that the ratio of the decimation would be determined by using the relation disclosed in figs. 2 and 3. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lo et al. in combination with Xue et al.' system with that of Del Signore et al. in order to sample frequency in accordance with variable decimation ratio (col. 2, lines 1 – 16). The combination of Lo et al., Xue et al. and Del Signore et al. would achieve the same end result as the claimed invention.

6. Claims 19 – 21, 23, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lo et al. (US Patent Number 5,876,350) in view of Xue et al. (US Patent Number 6,108,622) and Del Signore et al. (US Patent Number 5,157,395).

7. Regarding claims 19 - 21, 40, Lo et al. discloses a filtering method (fig. 4) comprising the steps of receiving a digital signal (at block 90 the digital signal is received), the digital signal having an initial sampling rate the digital signal further having line noise (col. 6, lines 43 – 50); filtering the line noise at 50 Hz (col.7, lines 33 –

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39); filtering the line noise at 60 Hz (col. 6, lines 51 – 61). Lo et al. does not specifically disclose a filtering method that reduces the initial sampling rate of the digital signal to a reduced sampling rate. However, Xue et al., in a related field, discloses a method (figs. 1- 5) that reduces the initial sampling rate of the digital signal to a reduced sampling rate (col. 14, lines 22 – 26) [the sample rate would be a variable value] Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lo et al.'s system with that of Xue et al. in order to control linear PCM scaling and decimation in an audio decoder.

8. Moreover, Lo et al. in combination with Xue et al. do not specifically discloses a filtering apparatus that comprises a decimation element. However, Del Signore et al., in related field, discloses an apparatus (figs. 2, 3) that comprises a decimation element (12, 16) having a decimation ratio (see figs. 2, 3)[as disclosed the decimation element is being processed in a digital manner, thereby Del Signore et al.'s system comprises a digital process]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lo et al. in combination with Xue et al.'s system with that of Del Signore et al. in order to sample frequency in accordance with variable decimation ratio (col. 2, lines 1 – 16). The combination of Lo et al., Xue et al. and Del Signore et al. would achieve the same end result as the claimed invention.

9. Regarding claim 23, Lo et al. and Xue et al. do not specifically disclose an apparatus that comprises an ADC, the ADC is configured to receive an analog signal, the ADC further being configured to convert the analog signal into digital, the ADC configured to provide the digital signal to the primary node. However, as noted in Del

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Signore et al. figs. 1 - 3 a delta sigma modulator feeds the decimation block 12; the delta sigma modulation in itself includes an ADC (not shown) that is used to convert the analog input signal into a digital signal, the digital signal is fed to the decimation block. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lo et al. in combination with Xue et al.' system with that of Del Signore et al. in order to sample frequency in accordance with variable decimation ratio (col. 2, lines 1 – 16). The combination of Lo et al., Xue et al. and Del Signore et al. would achieve the same end result as the claimed invention.

Allowable Subject Matter

10. Claims 1, 2, 38, 39 are allowable.

11. Claims 22, 24, 25, 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Jeanglaude whose telephone number is 571-272-1804. The examiner can normally be reached on Monday - Friday 7:30 A. M. - 5:00 P.M..

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jean Bruner Jeanglaude
Primary Examiner
November 11, 2005